

09376381

2161
~~15~~

10/02
11-13-02

Khai Hee Kwan
P.O.Box 1178
Sandakan 90713
Sabah
Malaysia



Debra F Charles
Examiner ART 2161

Deliver to: 4th Floor Receptionist Bldg.
Crystal Park II, 2121 Crystal Drive,
Arlington VA.
Virginia 22202
USA

Re: Response to your First Action Letter for 09/376381 (received by Facsimile 10 Jan 2002)

Our response to your action letter takes the following format as described below;

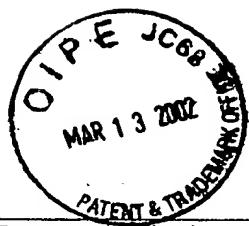
1. Walker (5797127) as prior art does not qualify under 35 USC 102(e) for want of similarity.
2. Rebuttal of Walker (5797127) on the facts that Walker's apparatus and formulation may not lead to a reliable option pricing formula. A mathematical observation is provided under Appendix 3.
3. Other Issues where we submit as below for further discussion with Examiner which incorporates arguments why this application should be allowed on its merits.

	Page
a) Patentability Subject Matter Analysis	8
b) The process must be new and useful	9
c) Product Similar ?	10
d) Apparatus Similarity ?	11
e) Non Obvious Subject Matter Under § 103	11

4. Conclusion at page 15
5. New Claims and their effects to this application at page 16
6. A discussion on other Prior Arts pertinent to applicant's disclosure at page 16

We have also enclosed the following attachment which we believe will be useful.

Topics	Number of Pages	Reference
Step by Step Analysis of Examiner's Points	8	Appendix 1
Step by Step Apparatus and Process Comparison	5	Appendix 2



Between Application and Walker		
Walker's Formula is not mathematically an option pricing model	9	Appendix 3
History of Invention	1	Appendix 4
New Claims Amendments	18	Appendix 5
Amended Figures	6	Appendix 6

New Claims instructions whereby Claims 1-28 is cancelled and replaced by Claims 29-54 which is submitted together with this response. There are 16 pages for the New claims, 2 pages of formality and is bundled together under the heading Appendix 5.

The following amended Figures have been corrected with a wider left margin as required by initial action letter. There is no other changes or additions. They are attached on a separate heading Amended Figures Appendix 6.

	Number of Pages	Number of Pages
Amended Fig 3	1 amended	1 original
Amended Fig 6	1 amended	1 original
Amended Fig 7	1 amended	1 original

There are 17 pages in this submission with page 3 as a blank. The appendixes includes 47 additional pages making a total of 64 pages.

If, for any reason, this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P § 707.03(d) and § 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Applicant here wish to advice that for the purposes of responding, the preferred method is by email (khkwan@yahoo.com) and by fax (509)-696-4812 which is dedicated for this purpose.

Thank you and regards.

Yours truly,

Khai Hee Kwan
Customer Number 023336.
8 March 2002.

Blank Page 3



1. Walker (5797127) as prior art does not qualify under 35 USC 102(e) for want of identical and similarity.

5 In your action letter, Claim 1-28 rejected under 35 USC 102(e) as being unpatentable over Walker (5797127) hereby known as "Walker". Reiterating,

35 USC 102 (e) states " A person shall be entitled to a patent unless -

10 (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by applicant for patent."

15 **Introduction and the requirement for "Identical" under 102(e)**

My response to the above 102 (e) rejection will be to show that the invention as described by Walker is not the same, similar or identical invention as in my specifications in terms of subject matter, structure of apparatus and product.

20 This requirement for "identical" can be further shown in the legal wording in 35 U.S.C. § 103, which reads, in relevant part:

25 "A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title,..." which clearly shows that law makers had wanted 102 to deal with identical products, invention or subject matter.

30 In (Alexander Milburn Co. v. Davis-Bournonville Co., 270 U.S. 390,) it is appreciated that in order for a 102(e) to be the primary rejection, said prior art has to completely and adequately described the invention. In short, the subject matter, the structure, the properties, the product and process must have taught the invention. Whether this activity be a prior patent, printed publication, knowledge or use by others, public use, on sale, act of abandonment, inventor's foreign patenting, earlier filed U.S. patent (as in this case), or prior invention, the Federal Circuit aptly summarized this requirement to destroy novelty or anticipate as follows: Anticipation requires the presence in a single prior art disclosure of *all elements* of a claimed invention arranged as in the claim. . . . A prior art disclosure that "almost" meets that standard may render the claim invalid under §103 [for obviousness]; it does not "anticipate." Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548, 220 USPQ 193 (Fed. Cir. 1983) (Markey, C.J.).

40 This issue "of all elements" can be explored further in Step by Step Analysis of Examiner's Points as described under Appendix 1.

45 It can be argued that while Walker's Patent described a process to determine the price of an option to purchase an airline ticket, it does not follow that *prima facie*, Walker has disclose a process to determine the price of an option to purchase cargo space unless one

5 considers that the process of determining the price of an option for any matters to be the same and identical. This is not the case with the art, option formulation requires determinants that are inherent in the underlying asset, say ticket price for ticket related option and cargo price for cargo. By subscribing that they are same and identical, means omitting the fundamental requirement to read the invention as a whole. For example, the patenting requirement is not merely to limit input as a process but to receive input from what as the limiting claim. It is this "what" that distinguish the method.

10 There is no evidence from Walker to show that his apparatus can determine a price for a cargo option nor originate such a contract even if the process are highly similar in a factual sense. The limitation is where a contract to purchase cargo space is not the same as one to purchase an airline ticket, both legally and factually. The option feature is brought into existence by the contract and hence must borne the same instrument as the contract. It is the creation of different contracts first which distinguishes the two products.

15 There is also no evidence from known literature that an option to purchase an airline ticket as in Walker's is similar or identical in form, functions and description to an option for purchase cargo space. It is also technically infeasible to use an option to purchase an airline ticket and substitute this for cargo services to get the same results. If options are 20 interchangeable or the concept of options are substitutable for its underlying object, then a financial option to purchase a particular stock would be able to purchase an airline ticket. Financial options would therefore be prior art and hence, Walker's patent would not have been patentable. To explain this further, it is therefore important to ask two 25 questions about any prior art: (1) What is the concept underlying it? (2) What is the physical embodiment of it?

30 Walker's concept is provide a process where data information in regard to travelling plans are inputted into a terminal in connection to a computer which will respond with a price to purchase an option for an airline ticket satisfying the initial information. It does this by programmable software that has a unique option formula inside (as opposed to generic). The formula consists of various determinants that are necessary for calculating 35 the option for this very purpose. If we follow the defense in Diamond v. Diehr 450 U.S. 175, 209 USPQ 1 (1981), then it is obvious that the novelty in Walker's is the formula as no person since Walker has ever come up with a way to calculate an option price to purchase an airline ticket. The embodiment involving an apparatus which is basically a computer with connections to terminals is well known generally but together with the underlying process makes it patentable as part of the overall subject matter of determining a price for option for an airline ticket.

40 In application 09-376381, cargo systems are separated from host computer. There is no cargo system in Walkers since Walker's deal with airline tickets. Initial data are inputted and checked by host computer before passing over to cargo systems which on its own programmable means to determine whether to make an offer or reject and if so provide data to the host computer to enable it to calculate the option necessary and output the 45 price to the requester. Similarly, requester can ask or bid other prices by posting his requirement on the market for a fix route and type of cargo. Cargo systems can set a time

limit for offers and has its own formula or criteria for determining whether to response to the host computer so as to enable said to calculate the option price and output such price as an offer. While the option formula is unique to cargo and may be embedded in cargo system, the option formula being centralized is to ensure consistency. As can be seen, the physical embodiment is different being connected to various cargo systems similar to a gateway formation ie many to one to many while Walker's is many to one, ie many terminals to one central controller representing one airline.

5 While Walker Patent mentioned incorporating his invention into a central reservation system (Col 4 Lines 1 to 15) or CRS, the embodiment would still be different. A central reservation system typically housed participating airlines' reservation under one system where data are shared and compared rather than acting as a gateway (as in application 10 09/376381) to independent systems. U.S. Department of Transportation mandates that the 15 airlines share their pricing information equally with each CRS which means either a physical or programmable means to link these systems together in order to share information. No similar equivalent is available for cargo reservation system nor is there any regulation that requires cargo service providers to share information namely price under a common reservation system and as such without modification, Walker's teaching could not be used to build an equivalent for cargo system. Furthermore, 09-376381 20 describes individuals cargo systems without the ability to share information, bidding for a request that they believe is commercially viable for them which is not the same as a central reservation system which main function is to consolidate reservation for 25 participating airlines. It is also not possible to extract cargo loading from airline reservation system which is basically setup to sell airline seats, which is uniform across most carriers (ie economy, business or first class).

Furthermore it is noted that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

30 *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

Cargo reservation however is far more complex and deals with requirements such as volume and weight, which depends on carrier, distance and capacity restrictions etc. 35 Technically, a cargo reservation system is no substitute for an airline reservation system in design or otherwise and in the same way a central cargo reservation system (which is yet to exist though anticipated and made obvious by Walker) cannot work on the same principle or design as a CRS since the competitive and legal requirements do not exist as per airline industry.

40 As late as Aug of 1999 (time when 09/376381 was filed), cargo service providers (provider of carriers, transporter etc) communicate and confirm deals with their agents using phone and fax. There is no network system which provides for unsolicited reservation over a network. There are centralized planning systems for containers at port but these are mainly for the efficient loading and off loading of containers, not the 45 booking of containers.

In Cohn v. United States Corset Co. 93 U.S. 366 (1876), Mr. Justice Strong delivered the opinion of the court. "It must be admitted that, unless the earlier printed and published description does exhibit the later patented invention in such a full and intelligible manner as to enable persons skilled in the art to which the invention is related to comprehend it

5 without assistance from the patent, or to make it, or repeat the process claimed, it is insufficient to invalidate the patent." If we follow this dicta then we need to ask whether there is any 'exhibit' allowing one skilled in the art of option for airline ticket to make a similar one for cargo space service or one for purchasing a house or car ? And if so, would such exhibit rely on substituting airline options to cargo options. This would
10 require no invention or discovery but can the formula still work and what are the determinants for cargo options? It will be difficult to even suggest to those not skilled in the art that its determinants can be the same and that no further effort is required to discover these factors.

15 My reply is with difficulty and mere knowledge is insufficient. A good analogy is that a person whose ordinary skill is to drive a motor vehicle does not necessarily know how to drive a motor bike even though some elements are necessarily common such as accelerator, speedometer, brakes etc.

20 However when asked if a person who is skilled in the art of options formulation design, then it is possible provided he has skill in cargo handling or has accessed to such information. This is by no admission that Walker's patent made obvious the invention. What Walker's patent essentially confirmed is that it is possible to patent a process to calculate option price to buy airline ticket using the unique formula and to sell such an option, no more no less as per Diamond v. Diehr 450 U.S. 175, 209 USPQ 1 (1981).

25 The art of designing option pricing mathematically has been around predating rice contracts in China more than 3 thousands years ago to hedge future earnings against natural disasters (this is not the same as insurance), the agricultural revolution in US until they were banned, the tulip bulb fiasco in Holland in 1700s so by any means, this is no new art. By the same conclusion, Walker designed one new use of an old art for airline ticket, which has never been invented before. Walker's claims is not monopolizing the art of pricing generic options and less on the method to sell such generic option. Walker's claims taken as a whole is for airline tickets and that is where its limits should be drawn.
30
35 This application in the same vein has invented an option for purchasing cargo and it encompasses air, rail, ship and space transportation of cargo. It is believed to be true by the inventor that such a system has never been invented before or even suggested. The reason for this is simply that the current reservation system for air, rail and ship cargo is free and hence any system imposing a fee would be contradictory to custom and practice.
40 What we anticipative is that this custom or practice may change once we can show the benefits to the service providers, more so for future inter-planet cargo transportation.

45 In process claims, prior art device anticipates a claimed process if the device carries out the process during normal operation. (re King, 231 USPQ 136 (Fed. Cir. 1986). The key word here is during normal operation. Under the principles of inherency, it will be difficult to see that under normal operation, Walker's device can determine the price for a

5 cargo space option and offer it to a user. To be able to offer a cargo space option, Walker's device (namely central controller) would have to be redesigned firstly to be linked up with cargo systems as data are feed from them (there is none in Walker), to setup database with registered users and finally to configured its option determining formula/program with new components as required from cargo system. This does not look like normal operation by any means without much modification.

10 **2. Rebuttal of Walker (5797127) on the facts that Walker's apparatus and formulation may not lead to a reliable option pricing formula**

Rebuttal of "identical" product.

15 *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) The claims were directed to a zeolite manufactured by mixing together various inorganic materials in solution and heating the resultant gel to form a crystalline metal silicate essentially free of alkali metal. The prior art described a process of making a zeolite which, after ion exchange to remove alkali metal, appeared to be "essentially free of alkali metal." The court upheld the rejection because the applicant had not come forward with any evidence 20 that the prior art was not "essentially free of alkali metal" and therefore a different and unobvious product.).

25 It is submitted that Walker's patent may not teach a proper option formula and hence distinguishing 09/376381. In Walker's it has erred in its base price calculation where its results is not price neutral. Whether this still makes it an option price is questionable and if it is not an option price then what is it ? For complete analysis please refer to Appendix 3. Note: We are not disputing the legal requirements for formulating an option. We are merely stating the facts that mathematically it looks less of an option price and more like a booking fee with bias towards low-ended fee, ie the lower the ticket price, the more one 30 has to pay everything else being equaled. If Walker's pricing model is not for pricing option then by the same reasoning as Marosi, it can't be similar product. Please note, we have revised our formula in our new claims (Appendix 5) at Claim 37 and 46.

35 **3. Other Issues where we submit other considerations as below for further discussion with Examiner which incorporates arguments why this application should be allow on its merits**

Patentability Subject Matter Analysis:

40 In 09-376381, the stated subject matter is to determine the price for cargo service option and to offer them in an electronic exchange. As such, we opined that an electronic process/transformation has occurred where information or electronic data received from an user is applied to received further electronic data and where both data in combination 45 is transformed through a formula into an electronic contract capable of binding a seller and buyer if agreed upon falls within the § 101 categories of possibly patentable subject

matter. In *Gottschalk v. Benson*, 409 U.S. 63 (1972), "Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines." 409 U.S., at 70. In *Diamond v. Diehr*, 450 U.S. 175 (1981), addressing § 101, the Supreme Court explained that there are three categories of subject matter for which one may not obtain patent protection, namely "laws of nature, natural phenomena, and abstract ideas." Diehr, 450 U.S. at 185. Of relevance to my application, the Supreme Court also has held that certain mathematical subject matter is not, standing alone, entitled to patent protection. It is submitted that clearly the mathematical formula used to calculate the premium or option price cannot be stand alone as it is part of the overall process to monetarize cargo space risk into dollars in accordance to the terms in the contract to be offer for sale hence providing a useful tool for cargo service providers to manage their business risk. It is not a disembodied mathematical concept which may be characterized as an "abstract idea," but rather a specific machine (in original claims) or system to produce a useful, concrete, and tangible result.

The process must be new and useful

Funk Bros. Seed Co. v. Kalo Co., 333 U.S. 127, 130, expresses:

"He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be invention from such a discovery, it must come from the application of the law of nature to a new and useful end." And in *Mackay Radio & Telegraph Co. v. Radio Corp. of America*, 306 U.S. 86, the applicant sought a patent on a directional antenna system in which the wire arrangement was determined by the logical application of a mathematical formula.

Both *Mackay Radio* and *Funk Bros.* point to the proper analysis for this case: The process itself, not merely the mathematical algorithm, must be new and useful. Indeed, the novelty of the mathematical algorithm is not a determining factor at all. Whether the algorithm was in fact known or unknown at the time of the claimed invention, as one of the "basic tools of scientific and technological work," see *Gottschalk v. Benson*, 409 U.S., at 67, it is treated as though it were a familiar part of the prior art.

If we follow this line of reasoning and the option formula is a familiar part of prior art as it must be, then the only consideration left is that the process must be new and useful. The process here is defined as a way to manage cargo space risk by cargo service provider and its usefulness is determined by its real world applications.

In contrast with *Walker*, this application's process is dependent on cargo systems. This "leg" is not an after thought or addition to the system and its relevancy is as much part of the overall invention as it involves the participation of the said system.

It is also further defined as a way to achieve this by programmable means. It is also stated as an object in Application specs page 3 line 15-16 that cargo options are proxies used for forecasting cargo demand. I submit that these are new use and useful. There are no cargo service providers that are currently using options to manage its cargo space risk nor has

the concept of forecasting demand using options has ever been muted prior to this application.

Is Product Similar ? (Alternative to Marosi's rebuttal)

5 If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed.Cir. 1985).

10 However this claim process has always been reserved for physical product which are difficult to define and hence only by its process. It is apparent in both 09-376381 and Walker's that there is no physical manufacturing but for its electronic transformation. If one considers both apparatus as capable of manufacturing "electronic option contracts" then are they the same or obvious? Do we break down the elements making this contracts 15 and compare them to be similar given that they are not physical products ?

Fundamentally, all electronic products whether it be an electronic contract, a spreadsheet or database at its atomic form consist of electrons, neutrons and protons. At this level, 20 they may differ in byte size. However products at this level is of little use to the real world which is a requirement of patentability. Therefore for electronically created products existing within a readable media, we have to look at their functions as a guide to determined their usefulness in the real world. By definition, an option contract has 25 specific performance clauses and hence is not the same even within the same class as each contract has a specific route, trigger clauses, service provider, cargo information and final price payable. In short each contract is tailored made. As mentioned previously, both their functions are apparently different in the real world serving distinguishable subject matter and are not interchangeable.

30 It is also evidenced from both apparatus, each would originate different contracts based on the information inputs from users framing the terms in these electronic contracts. As mentioned earlier, options fees are merely monetary value of these contracts embedded with contractual agreement to provide cargo services.

35 Being legally binding, the substance of these contracts is dependable on the user's inputs, which are build into these contracts on acceptance. Legally, it will be difficult to conclude that a contract to purchase an airline ticket is the same as one to purchase cargo space merely because they are similarly electronic contracts. Differences must be viewed in the substance (ie what is being created by its process) and not the form. Similarly devices must be considered as what it is rather than what it does.

40 By Walker's specification (Col 3 lines 1-3), it is said that prices for options (financial) are not suitable to airline tickets, "due to the unique nature of airline tickets" which means that these options are made specifically for airline tickets and certainly not for cargo or stocks and hence unrelated.

45

While the claims of a patent limit the invention, and specifications cannot be utilized to expand the patent monopoly, *Burns v. Meyer*, 100 U.S. 671, 672 (1879); *McCarty v. Lehigh Valley R. Co.*, 160 U.S. 110, 116 (1895), it is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention, *Seymour v. Osborne*, 11 Wall. 516, 547 (1870); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211 (1940); *Schering Corp. v. Gilbert*, 153 F.2d 428 (1926). Taken together with the specifications in Walker (Col 2 lines 19-47) disclosing an invention for options to purchase airline ticket, the lack of reference to any other type of options in Claims 1 and 28 or in reference indicates that airline ticket is the only subject matter.

Apparatus Similarity ? :

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device *is*, not what a device *does*.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464,

In Walker’s 5797127 the apparatus is a computer with means to communicate to several terminals. There is no indication in the claims as being a network apparatus. In Application 09-376381, it is a permanent computer networked to several terminals and with several cargo systems in a decentralized network such as an Internet. Cargo systems are independently operated and having own programs executable in its CPU and memory. This will be reflected clearly in the new claims.

25

Non Obvious Subject Matter Under § 103 :

This discussion is added for completeness. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.

Examiner’s manual “Patentability” at 2143 provided the basic requirements of a *prima facie* case of obviousness. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

40

It is submitted, there are no suggestion or motivation in either reference or knowledge available to one of ordinary skill since the ‘solution’ is uncommon. For example, poor business can mean a number of factors like no customer, high prices etc. However, the effect of poor cargo space management have many possible solutions, ranging from optimization models, forecasting models, improved communication etc in fact anything that may satisfied management that it is not their incompetence and which can be easily

explain to their shareholders. The inventor believes that poor cargo space management is a product of poor forecasting of demand.

5 For a historical perspective of the invention please refer to Appendix 4. It is known in the art that cargo service providers are reactionary competitive ie by aggressively manipulating the fee structure to support its services. This does not solve the problem of not able to predict the demand from the outset. The traditional way to predict future demand is to analyze past data and this is the standard. No one has ever come up with the concept of predicting future demand using a booking fee or cargo option as a proxy. The 10 difference between the two is based on serviceability one being a hedging tool (option) and the other a conditional purchase. It is known in the art that an option premium is not refundable whereas a booking fee may depending on the terms of purchase.

15 The current standard for service providers in the air, rail sector is not to charge a booking fee. However as one can see, this invention is also targeted at space cargo and in view of its enormous cost would required some kind of commitment beyond a verbal yes. However private space cargo is a fairly new enterprise and relatively unknown being confined to satellite placement.

20 As for reasonable degree of success, this is difficult to tell. For one, it is difficult to convince cargo service provider and their customers to pay a fee such as a premium to lock in the cost. The underlying service is free to reserve. The inventor has after filling the initial application consulted other carriers, which responded negatively in 1999.

25 Again, in terms of new field such as inter planetary cargo transport this may be successful since the cost is in the millions and there is no customary practice such as in other cargo services. As for the final point on prior art teaches all the limitations, there is none. Walker taught some elements but Walker's patent is an option for airline ticket and fall short in recognizing the new use as in this application.

30 Determining the Artisan's Skill – The Federal Circuit has not left trial courts alone to determine the level of ordinary skill involved. Instead, the court has provided six factors that are pertinent to the inquiry:

35 (1) the educational level of the inventor
(2) the type of problems encountered in the art
(3) the prior solutions to those problems
(4) the rapidity with which inventions are made
(5) the sophistication of the technology
40 (6) the educational level of workers active in the field

See Environmental Design, Ltd. v. Union Oil Co. of Calif., 713 F.2d 693, 218 USPQ 865 (Fed. Cir. 1983).

45 Inventions in real options have been slow and between Walker's Patent in 1996 to 2001, there is but another patent that considers an expirationless option by Daugherty III,

Apparatus and Process for calculating an Option (for financial options). There is limited technology involvement with option as it is basically a contract, just the requirement of mathematics to calculate the value, instinct in knowing which components to use, patience in testing these values and a starting point will do. Any technology involvement is merely to facilitate the execution of the formula and to provide a means to commercialize the use of the formula. The level of education of workers active in financial options ranged from basic education (those who trade in option markets) to those with PhD (those who tries to predict the value and direction of the options). For example Black and Scholes who invented the popular formulation of financial option have Doctorate degrees in Finance, Mathematics and Economics. However, they borrow the elements of the formulation from other mathematicians such as Ito et al but manage to combine it so effectively as to earn themselves Noble Prizes. Unfortunately, the same formula almost cost a financial market meltdown in Sept 98 in the Long Term Capital Management fiasco. Myron Scholes who worked for LTCM is currently back in academia.

Against this background, the obviousness or nonobviousness of the subject matter is determined. In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.

Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). This is a subtle but important distinction. It puts the focus on the invention as a whole rather than just on the differences. Thus, the claims may not be chopped up and matched to disparate prior art references if the subject matter as a whole, when taken together, would not have been obvious. Second, the proper time frame for the inquiry is the time when the invention was made (ie when cargo option was invented). Finally, the provision looks to the artisan of ordinary skill not one of an inventor. This standard lends some objectivity to the test, because the question is not what an expert would find obvious or what a judge would find obvious.

The objective standard of nonobviousness have been found within two cases. In *Graham v. John Deere Co.*, 383 U.S. 1 (1966), it is opinioned that "the emphasis on nonobviousness is one of inquiry, not quality". The inquiry here establishes that the present invention includes the need for a fee to secure the underlying cargo service. This fee exhibited properties similar to an option premium payable by the purchaser. Because this insight is contrary to the understanding and expectations of the art (there is never any fee for the booking or reservation of cargo services), the structure effectuating it would not have been obvious to those skilled in the art. *United States v. Adams*, 383 U.S. 39 (1966).

Under section 103, subject matter is unpatentable if it "would have been obvious . . . to a person having ordinary skill in the art." While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or prior art specifically suggest making the combination. *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed.Cir. 1988). Such suggestion or motivation to combine prior art teachings can derive solely from the

existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same or similar problem, which it addresses.

5 To discuss this further, we need to ask if the cargo service industry such as in air cargo faced the same problem as in the airline industry. In Walker's it is stated that airline customers can lock in the guaranteed price, without tying up the full purchase price of the ticket and without putting the full purchase price in case of travel plan changes. It also provides sellers with profit. (Col 2, line 28-25). We can define with certainty that
10 Walker is trying to solve two problems at once, raise funds for airlines and lock in the cost for customers. The airlines industry has ticket prices that seem to be as volatile as the stock market.

15 In contrast, the cargo service providers face problems in managing their cargo space because they can't predict the demand with accuracy. The cargo prices are not as volatile as airlines because of the different type of cargo and hence demand requirements. In fact prices are quoted based on a need to know basis although there is a standard price for general goods. Where this invention is most useful is to facilitate unique cargo such as a human heart or parts to orbiting space stations etc. Because, there is no way, we can
20 predict when a human donor heart is available, we need tools where we can secure cargo services quickly and affordable with the provider. From the provider's point of view, this makes sense since its transporter will need to make unscheduled stops and pickups within 1 or 2 hours of an emergency call. These will cause delays to other cargo, which needs to be compensated. When an option is sold, then by proxy the service provider would
25 recognize that there is at least a 50/50 chance of being call to provide the service else without this method, there is no way of knowing.

30 The general direction for one familiar with the art of forecasting is to do more forecasting but the inventor with knowledge in options have observed that certain option's properties may be useful here and thus applied accordingly. Options as applied in the stock market have been good predictor of underlying stocks for speculators. Other properties such as locking in rates and fund raising are supportive. There was no direct motivation, the inventor has always like to try different things to proof the unconventional.

35 To remedy this problem without better forecasting tools, means to one familiar with the art, either stopping the service route or to reduce fees in order to compete, both which will cut into profits. It is clear that the state of the art then in dealing with such problem (though not severe) is one of business decision made by the manager of the day.

40 In W.L. Gore : On the entire record and in view of all the references, each in its entirety, it is clear that a person of ordinary skill confronted with a PTFE tape breakage problem would have either slowed the rate of stretching or increased the temperature to decrease the crystallinity. Dr. Gore did neither. He proceeded contrary to the accepted wisdom of the prior art by dramatically increasing the rate and length of stretch and retaining
45 crystallinity. That fact is strong evidence of nonobviousness. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1552, 220 USPQ 303 (Fed. Cir. 1983);

In *In re Fine*, the claims were directed to a system for detecting and measuring minute quantities on nitrogen compounds comprising a gas chromatograph, a converter which converts nitrogen compounds into nitric oxide by combustion, and a nitric oxide detector.

5 The primary reference disclosed a system for monitoring sulfur compounds comprising a chromatograph, combustion means, and a detector, and the secondary reference taught nitric oxide detectors.

10 The examiner and Board asserted that it would have been within the skill of the art to substitute one type of detector for another in the system of the primary reference, however the court found there was no support or explanation of this conclusion and reversed.

15 Similarly, if we follow the same logic, Walker's patent teach a way to determine a price for an option to purchase airline tickets, it does not even suggest an option for cargo option by substitution, although it provided information on how to calculate one type of option. However as noted by Walker the difficulty in calculating such option for airline tickets " due to the unique nature of airline tickets " (Col 3, lines 1-3) means for any other type of options, the requirements cannot be the same and if they should be the same, the 20 only explanation could be coincidental rather than anticipated. Any substitution of elements in the formula to calculate the option is done not from Walker's teachings but from experimentation. It is obvious that some elements in the formula comes directly from other teachings which Walker's has also absorbed such as standard deviation, time to maturity, exercise price, current price etc which are found naturally from established 25 financial option formula. Such elements may be substitutable to those who are ordinarily skilled in the art but elements pertaining to cargo requirements may not since one who is versed in financial options, or airline ticket options will not have the same experience in cargo requirements.

30 **Conclusion:**

In *Dewey & Almy Chemical Co. v. Mimex* 124 F.2d 986, 52 USPQ 138 (2d Cir. 1942). L. HAND, Circuit Judge framed " No doctrine of the patent law is better established than that a prior patent or other publication to be an anticipation must bear within its four 35 corners adequate directions for the practice of the patent invalidated. If the earlier discloser offers no more than a starting point for further experiments, if its teaching will sometimes succeed and sometimes fail, if it does not inform the art without more how to practice the new invention, it has not correspondingly enriched the store of common knowledge, and it is not an anticipation. . . ." In Walker's case, it may be argued that it 40 offers no more than a starting point for further experimentation for other kind of options. The concept of "real options" which is a different branch of option instruments and involving non-financial options have been an idea for those who are familiar in the art. There are literally thousands of possibilities as far as the imagination permits such as in a 45 separate application by myself the inventor, an option to pay for education fees. The only real issue is to develop the right components to use in the option formula, which has often been the stumbling block rather than the discovery of the subject matter itself.

New Claims and their effects;

5 As we are unsure the response of the examiner after reviewing our submission above and
as we have pointed out a 102(e) is not appropriate under various case law above, we
would like to propose our new claims to incorporate a modified Black Sholes option
pricing formula to distinguish Walker's option formula and more emphasis on cargo
10 system to distinguish Walker. See Appendix 5.

15 **Other Prior Arts pertinent to applicant's disclosure**

There are further patents (prior art) that are pertinent to my case which I have
summarized and distinguished below;

20 Cristifich et al. Private Stock Option Account Control and Exercise System; This is
distinguished because this is basically an administrative or management system for record
keeping purposes. In my submission, it is not a stock option and secondly, it is a dynamic
system where registered users can make price and trade these cargo options.

25 Daugherty, III, Apparatus and Process for calculating an Option: This is distinguished
since as the patent is directed to financial asset options which uses different input values
to arrive at the price. As quoted from the patent "Moreover, not only is there a need for a
system capable of transacting a fairly calculated premium for an option not dependent on
"time," but there is a further need for such a system to automatically transact purchases
30 and sales of expirationless options instantaneously while handling (1) the constantly
changing current asset prices and other variables associated with the option premium
pricing and (2) the high volume (millions) of daily options transacted in the securities
market and other markets" Furthermore, its claims have been limited to assets of the
35 following which are mostly of financial nature as can be seen in Claim 4. "The method of
claim 1 wherein said particular asset is selected from the group consisting of: equity,
bonds, loans, private placements, forward contracts, futures contracts, swaps, forward
swaps/delayed start swaps, break forwards, straddles/strangles/butterflies, reverse floating
rate loan/bull floating rate notes, dual currency bonds, callable/puttable bonds, puttable
40 stock, bond with warrant, convertible bonds, liquid yield option notes, commodity-linked
bonds, auction rate notes/debentures, collateralized mortgage obligations/real estate
mortgage investment conduits, commercial real-estate backed bonds, credit enhanced
debt securities, dollar bills, foreign exchange paper, floating/bate sensitive notes, floating
rate tax-exempt revenue bonds, increasing rate notes, indexed currency option notes or
45 principal exchange rate linked securities, caps/floors/collars, interest rate reset notes,
mortgage pass-through certificates, negotiable certificates of deposit, adjustable tender
securities, puttable/extendable notes, real yield securities, receivable pay-through

securities, remarketed reset notes, stripped mortgage backed securities, stripped treasuries/municipals, variable coupon renewable notes, variable rate renewable notes, yield curve/maximum rate notes, adjustable rate preferred stock, auction rate preferred stock, convertible adjustable preferred stock, remarketed preferred stock, single point adjustable rate stock, state rate auction preferred stock, variable cumulative preferred stock, adjustable rate convertible debt, convertible exchangeable preferred stock, convertible reset debentures, debt with mandatory common stock purchase contracts, exchangeable preferred stock, synthetic convertible debt, zero coupon convertible debt, puttable common stock. "

10 Hartman et al. Variable Margin Pricing System: While this is similar to a dynamic system to enable updating, it does not relate to option nor the trading of cargo options.

15 Luke et al Method for Automatically identifying, Matching and Near matching buyers and sellers in Electronic Market transactions; This invention describes a highly complex system with methods comprising the steps of: receiving offer data consisting of numerical linear ranges defining a lower point, an upper point, and a preferred point for each dimension of the offer data storing the received offer data in a database. In my
20 application, it is much more simple and does not have any 'numerical linear ranges' etc. Basically, user ask for a price based on shipping information, and if cargo systems are interested, receives a price and any other prices which are matches the shipping information and are available for offer. If user rejects, then all the prices goes to a listing database accessible by all by doing search functions.

25 Dedrick Consumer-Driven Electronic Information Pricing Mechanism; The "pricing option" mentioned here refers to choices/selection on information content rather than as a risk factor used in formulating an option price for cargo space. This invention relates to a consumer-driven mechanism for determining the cost of electronic content and has
30 nothing to do with cargo option. It essentially provide a way by which the monetary resources necessary to establish and maintain such an electronic information network is the supported by individual end users which consume the electronic information. This electronic information, however, has different value to different users. For example, some users will be very accepting of advertising as part of the electronic information, whereas
35 others will be opposed to receiving advertisements. Thus, it would be beneficial to provide a system which allows individual users to control the amount of electronic advertising they receive with their electronic content and charge them for this.